Docket No. TOR7119

APPLICATION

FOR UNITED STATES LETTERS PATENT

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT WE, EDWIN S. ROMANO and CLAUDINE GABARRO, citizens of CANADA, have invented a new and useful KEYBOARD AND DISPLAY FOR A COMPUTER of which the following is a specification:

KEYBOARD AND DISPLAY FOR A COMPUTER

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to keyboard devices and more particularly pertains to a new keyboard device for remotely controlling a computer and displaying a display generated by the computer.

Description of the Prior Art

The use of keyboard devices is known in the prior art. While these devices fulfill their respective, particular objectives and requirements, the need remains for a device that utilizes the ability of wireless signals and liquid crystal display technology to allow a person to control a computer and view its display output from a remote location. Such a device should be thin and compact to allow for its versatile use.

SUMMARY OF THE INVENTION

The present invention meets the needs presented above by providing a housing having touch sensitive keys which are flush with the top wall of the housing. This reduces the profile of the housing and prevents liquids from entering the housing between the keys.

Another object of the present invention is to provide a new keyboard device that allows a user to selectively illuminate the keys so that the keys

may be used in a darkened room to prevent the disturbance of a roommate by the need to increase the ambient light of a room.

Still another object of the present invention is to provide a new keyboard device that includes a LCD display which may be backlit and which positioned on the housing so that again a user may avoid disturbing a roommate by utilizing a conventional monitor which provides a large amount of light to a room.

To this end, the present invention generally comprises a housing having a top wall, a bottom wall, a back wall, a first side wall, a second side wall, and a front wall. The housing has a height from the top wall to the bottom wall less then 2 ½ inches. A processor is mounted within the housing. A plurality of keys defining a computer keyboard is positioned in the top wall and is substantially flush with the top wall. Each of the keys comprises a touch sensitive key and each is electrically coupled to the processor. A display is mounted in the top wall and is substantially flush with the top wall. The display is electrically coupled to the processor. An interface is electrically coupled to the processor and selectively coupled to the computer for communication between the processor and the computer. The computer may receive input from the plurality of keys and a video signal received from the computer may be displayed on the display.

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto.

The objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

Figure 1 is a top plan view of a keyboard and display for a computer according to the present invention.

Figure 2 is a side view of the present invention.

Figure 3 is a cross-sectional view taken along line 3-3 of Figure 2 of the present invention.

Figure 4 is a schematic bottom view of the present invention.

Figure 5 is a schematic cross-sectional view of the housing of the present invention.

Figure 6 is a schematic view of the present invention.

Figure 7 is a schematic view of the interface controller of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to Figures 1 through 7 thereof, a new keyboard device embodying the principles and

concepts of the present invention and generally designated by the reference numeral 10 will be described.

As best illustrated in Figures 1 through 7, the keyboard and display for a computer 10 generally includes a housing 12 having a top wall 14, a bottom wall 16, a back wall 18, a first side wall 20, a second side wall 22, and a front wall 24. The housing 12 has a height from the top wall 14 to the bottom wall 16 preferably less then 2 ½ inches. Preferably, a plurality of resiliently compressible foot pads 26 is attached to the bottom wall.

A processor 28 is mounted within the housing 12. An actuator 30 is electrically coupled to the processor 28 for selectively supplying electricity to the processor 28. The actuator 30 is preferably mounted on the housing 12 on the first side wall 20, the second side wall 22, or the back wall 18. Power to the processor 28 may be supplied by a conventional plug or by a battery 32. Preferably, a rechargeable battery will be used which may be removably positioned in the housing 12 through a door 34 in the bottom wall 16.

A plurality of keys 36 defines a computer keyboard that is positioned in the top wall 14 and is substantially flush with the top wall. The keys 36 are those conventionally found on a computer keyboard and will be arranged in a conventional manner as found in figure 1. Each of the keys 36 comprises a touch sensitive key and each is electrically coupled to the processor 28. Ideally, each of the keys 36 is translucent such that they may be illuminated by light shining upwardly through them from within the housing 12. A space 38 between each of the keys and adjacently positioned keys and edges of the top wall is sealed. This may be accomplished with a plastic material and is used to stabilize the keys and also to ensure that liquid may not enter the housing through spaces

between the keys 36. Such a construction is often conventional with touch sensitive keypads.

Each of a plurality of light emitters 40 is mounted within the housing 12. Each of the light emitters 40 is mounted adjacent to one of the keys 36 such that its light may illuminate the adjacent key 36. The light emitters 40 are each electrically coupled to the processor 28. Preferably, each of the light emitters 40 comprises a light-emitting diode. A control 42 is electrically coupled to the microprocessor for selectively altering the luminosity of the light emitters 40. The control 42 is mounted on the housing 12.

A display 44 is mounted in the top wall 14 and is substantially flush with the top wall 14. Ideally, the display 44 comprises a liquid crystal display that is preferably selectively backlit. The display 44 is positioned between the plurality of keys 36 and the back wall 18. A sound emitter 46 is mounted within the housing 12 and is electrically coupled to the processor 28. The top wall 14 has a grouping of apertures 48 extending therethrough. The apertures 48 are positioned adjacent to the sound emitter 46. Additional sound emitters 46, or speakers, may be added positioned within the housing 12. Additionally, a microphone 50 may also be positioned in the housing for receiving sound input from a user of the device. The microphone 50 is electrically coupled to the processor 28.

A touch pad 52 is mounted in the top wall 14. The touch pad 52 is operationally coupled to the processor 28 and is preferably positioned between the plurality of keys 36 and the front wall 24. The touch pad is a conventional touch pad used with portable laptop computers for mouse functions.

An interface 54 is electrically coupled to the processor 28 and is selectively coupled to a computer 8 for communication between the processor 28 and the computer 8. The interface 54 may include a cable having conventional connectors and would generally include a port on the housing for receiving a first end of the cable and the second end of the cable would have one or two couplers for coupling to the keyboard input and the video and sound outputs of the computer. However, it is preferred that the combination of the present device utilizes a wireless signal such 802.11b or 8702.11g. The interface 54 then includes a first transceiver 56 and a second transceiver 58 each adapted for sending and receiving wireless transmissions. The first transceiver 56 is electrically coupled, or hardwired, to the processor 28. This may be done through ports 60 to the processor. The second transceiver 58 would use conventional outputs and inputs to couple to the existing input and output ports 9 of the computer 8 so that it would be removably electrically coupled to the computer 8.

In use, the device is used with a conventional desk top computer in a manner that allows the user to the computer in a darkened room in an area spaced from the computer where cables connecting a keyboard to the computer would not be practical. The user uses the combination as a conventional keyboard and mouse for inputting information to the computer from the plurality of keys. A video and/or sound signal is then transferred back to the combination from the computer via the transceivers so that the display displays what a conventional monitor would display and to allow the speakers to emit any sounds that would normally be played by speakers coupled to the computer. The combination gives the functionality of a laptop in a very small design and allows the user to utilize the desk top computer while having the ability to move away from the desk top computer.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.